

REMARKS

I. Introduction

In response to the pending Office Action, Applicants have amended claim 1 to further clarify the intended subject matter of the invention. Support for the amendment to claim 1 can be found, for example, in Fig. 2 and the passage describing Fig. 2 in the specification. Furthermore, the Abstract has been amended to indicate that it is only one paragraph. No new matter has been added.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art.

II. The Rejection Of Claims 1-2 And 6- 9 Under 35 U.S.C. § 102

Claims 1-2 and 6-9 were rejected under 35 U.S.C. § 102(e) as being anticipated by Petersen et al. (U.S. 6,682,649). Applicants respectfully submit that Petersen fails to anticipate the pending claims for at least the following reasons.

With regard to the present invention, amended claim 1 discloses, in-part, a method for measuring activity signals of a biological sample using a porous insulating substrate provided with a measurement electrode, the measurement electrode being arranged on a front surface of the porous insulating substrate, the method comprising the steps of injecting a target liquid containing the biological sample into a measurement chamber; trapping the biological sample onto the measurement electrode provided on the front surface of the porous insulating substrate by conveying the target liquid from the measurement chamber and then passing the target liquid through the porous insulating substrate from the front surface to a back surface thereof to cause

the biological sample to be adsorbed to the measurement electrode; and measuring activity signals of the biological sample through the measurement electrode.

In contrast to the claimed invention, Petersen et al. discloses that the measurement electrodes 16 are provided on the back surface of the substrate 12 (see, Fig. 4A). As a result, the measurement electrodes 16 do not come into contact with the biological sample 2. Therefore, Petersen et al. fails to disclose that the measurement electrode [is] arranged on the front surface of the porous insulating substrate and that the biological sample [is] adsorbed to the measurement electrode.

As anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference, *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983), and at a minimum, Petersen et al. does not disclose that the measurement electrode is arranged on the front surface of the porous insulating substrate and that the biological sample is adsorbed to the measurement electrode, it is clear that Petersen et al. does not anticipate claim 1 or any claim dependent thereon.

III The Rejection Of Claims 1-12 Under 35 U.S.C. § 103

Claims 1-12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Petersen et al. (U.S. 6,682,649) in view of Owen et al. (WO 99/663290). Applicants respectfully traverse this rejection for at least the following reasons.

With regard to the present invention, amended claim 1 discloses, in-part, a method for measuring activity signals of a biological sample using a porous insulating substrate provided with a measurement electrode, the measurement electrode being arranged on a front surface of

the porous insulating substrate, the method comprising the steps of injecting a target liquid containing the biological sample into a measurement chamber; trapping the biological sample onto the measurement electrode provided on the front surface of the porous insulating substrate by conveying the target liquid from the measurement chamber and then passing the target liquid through the porous insulating substrate from the front surface to a back surface thereof to cause the biological sample to be adsorbed to the measurement electrode; and measuring activity signals of the biological sample through the measurement electrode.

In contrast to the claimed invention, Petersen et al. discloses that the measurement electrodes 16 are provided on the back surface of the substrate 12 (see, Fig. 4A). As a result, the measurement electrodes 16 do not come into contact with the biological sample 2. Furthermore, Owen et al. discloses that the porous substrate 4, in which cells 8 and 9 are entrapped, is comprised of polytetrafluoroethylene (PTFE). As is shown in Fig. 1 of Owen, the electrode 5 is separate from the substrate 4. Further, the pore size and number is such that they are sealed by the cells, rather than allowing for the cells to pass through. Thus in Owen, the biological samples (cells 8 and 9) are never in contact with the electrode 5. Therefore, neither Petersen nor Owen disclose that the biological sample is adsorbed to the measurement electrode.

Thus, in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA1974). At a minimum, as both Petersen et al. and Owen et al. fail to teach or suggest that the biological sample is adsorbed to the measurement electrode, it is submitted that Petersen et al. and Owen et al., alone or in combination, do not render claim 1 obvious. Accordingly, it is respectfully requested that the § 103 rejection of claim 1, and any pending claims dependent thereon be withdrawn.

**IV. All Dependent Claims Are Allowable Because The
Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

V. Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication of which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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